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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/806,844

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Takashi Izuta

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EXAMINER

DHINGRA, RAKESH KUMAR

ART UNIT

PAPER NUMBER

1792

MAIL DATE

DELIVERY MODE

12/10/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/806,844	Applicant(s) IZUTA, TAKASHI	
	Examiner Rakesh K. Dhingra	Art Unit 1792	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 03 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 September 2007.
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 13-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 13-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 06 April 2007 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
- 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
- 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

Applicant's arguments with respect to claims 13-16 have been considered but are moot in view of the new ground(s) of rejection as explained hereunder.

Applicant has amended claim 13 by adding new limitation "heating device preheats said back plate before immersing the substrates in the heated treating solution stored in said treating tank.

Claims 13-16 are presently pending and active.

New reference by McConnell (US Patent No. 4,984,597) when combined with Ueno and Kuroda et al reads on amended claim 13 limitations. Accordingly claim 13 and dependent claims 14-16 have been rejected under 35 USC 103 (a) as explained below.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 13-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ueno et al (US Patent No. 5,421,905) in view of McConnell (US Patent No. 4,984,597) and Kuroda et al (US PG PUB No. 2002/0153098).

Regarding Claim 13: Ueno et al teach a wafer treating apparatus comprising:

A treating tank 20 or 21, a substrate transport mechanism 31a, a substrate holding device having plurality of holding rods 43 and a back plate 41, and a heating device 52 for heating and drying the back plate 41. Ueno et al further teach that back plate 41 can be heated and dried at different locations (during the processing cycle) depending upon process limitations. Ueno et al also teach that location of heating device 52 can be selected as per process requirements (for example, Figs. 9, 13 and col. 3, line 49 to col. 6, line 35). Claim limitation "heated treating solution" pertaining to contents of apparatus during intended use of the apparatus. Since the prior art apparatus meets all the structural limitations of the claims, the apparatus of prior art is capable of meeting these limitations.

Ueno et al do not teach a controller, and the back plate having a heating device where the heating device pre-heats the back plate before immersing the substrates in the treating solution.

McConnell teaches a substrate drying apparatus comprising a treating tank 12 with wafer carrier 18, 20 that include heating devices to enable pre-heat the substrates to the temperature of the drying fluid, before the wafers are immersed in the drying fluid (for example, Fig. 2 and col. 7, lines 20-28). Though Ueno et al do not teach that the back plate has the heating device 52, it would be obvious to dispose the heating device 52 of Ueno et al with the back plate 41, in view of per teaching of McConnell, to enable heat the back plate (and thus the substrates) so as to enable pre-heat the substrates before treatment, to reduce their drying time.

Therefore it would have been obvious to one of ordinary skills in the art at the time of the invention to provide the back plate with a heating device as taught by McConnell in the apparatus of Ueno to enable pre-heat the substrates before immersing in the treating solution to enabling faster processing.

Ueno et al in view of McConnell do not teach a controller for controlling the treatment of substrates. However use of a controller to control the overall processing of treatment of substrates is known in the art, as per reference cited hereunder.

Kuroda et al teach a substrate treating apparatus (Figures 3-14) for performing a predetermined treatment of a plurality of substrates as immersed in a solution, comprising:

a treating tank 30 for having the a treating solution stored therein;

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a substrate transport mechanism 15 comprising of left/right wafer chucks 20a, 20b and transferring/driving means 21, that transports the plurality of substrates;

a wafer guide 31 (substrate holding device) that holds the substrates received from said substrate transport mechanism and immerses the substrates in the treating solution stored in said treating tank; and

a control means 60 as per Figure 5 (controller) that controls the treatment of the substrates W by immersing said substrate holding device 31 holding the substrates in the treating solution stored in said treating tank;

wherein said substrate holding device 31 includes a plurality of holding rods 43a – 43c for holding the plurality of substrates W in vertical posture, and a back plate 45 supporting said holding rods in cantilever fashion (paragraphs 0040-0042, 0052-0062, 0065-0080). It would be obvious to configure the controller 60 of Kuroda et al to control the overall processing of wafer including as per teaching of Ueno and McConnell, to enable provide automatic control of the overall process of wafer processing. Further, claim limitation “pre-heating the back plate before immersing the substrates in the treating solution” is a functional limitation and since the apparatus of prior art meets the structural limitations of the claim, it is considered capable of meeting the functional limitations.

Therefore it would have been obvious to one of ordinary skills in the art at the time of the invention to configure the controller of Kuroda et al to control the processing of wafer as taught by Ueno and McConnell to enable provide automatic control of the overall process of wafer processing.

In this connection courts have ruled:

1) Expressions relating the apparatus to contents thereof during an intended operation are of no significance in determining patentability of the apparatus claim. Ex parte Thibault, 164 USPQ 666, 667 (Bd. App. 1969).

2) Claims directed to apparatus must be distinguished from the prior art in terms of structure rather than function. *In re Danly*, 263 F.2d 844, 847, 120 USPQ 528, 531 (CCPA

1959). Apparatus claims cover what a device is, not what a device does *Hewlett-Packard Co. V. Bausch & Lomb Inc.*, 15USPQ2d 1525, 1528 (Fed. Cir. 1990)

Regarding Claims 14, 15: Kuroda et al teaches all structural limitations of the claims. The recited limitations regarding use of phosphoric acid and sulfuric acid as treating solutions, are limitations pertaining to contents of apparatus during intended use of the apparatus. Since the prior art apparatus meets all the structural limitations of the claims, the apparatus of prior art is considered capable of meeting these limitations.

Regarding Claim 16: The recited limitations regarding use of apparatus for etching treatment is an intended use limitation. Since the prior art apparatus meets all the functional limitations of the claims, the apparatus of prior art is capable of meeting these limitations, absent any criticality disclosed.

In this connection courts have ruled:

“A claim containing a “recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus” if the prior art apparatus teaches all the structural limitations of the claim. *Ex parte Masham*, 2 USPQ2d 1647 (Bd. Pat. App. & Inter. 1987).”

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action.

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In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rakesh K. Dhingra whose telephone number is (571)-272-5959. The examiner can normally be reached on 8:30 -6:00 (Monday - Friday).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Parviz Hassanzadeh can be reached on (571)-272-1435. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Rakesh K. Dhingra



Karla Moore
Primary Examiner
Art Unit 1792